CLAIM LISTING

1.   (Original) A system for monitoring the presence or absence of members of a defined set of members, said system comprising:

a plurality of senders each capable of asynchronously transmitting a uniquely encoded identification frame on a common communication channel to form a composite signal on said channel including identification frames from said plurality of senders, each sender being uniquely physically associated with a different one of said members;

each of said senders including electronic circuitry for repeatedly transmitting a uniquely encoded identification frame comprised of alternating active and inactive intervals and where each uniquely encoded identification frame is characterized by a unique sequence of inactive interval durations;

said electronic circuitry including a controller for controlling the duration of each of said inactive intervals; and

a monitor responsive to said composite signal for recognizing individual identification frames therein for determining the presence or absence of an identification frame unique to each sender.

2.   (Original) The system of claim 1 wherein said electronic circuitry transmits at least one pulse during each active interval.

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3.   (Original) The system of claim 1 wherein said electronic circuitry transmits a coded pulse burst during at least one of said active intervals, said coded pulse burst defining a unique sender identification code.

4.   (Original) The system of claim 1 wherein said electronic circuitry transmits a coded pulse burst during each of said active intervals, said coded pulse burst defining a unique sender identification code.

5.   (Original) The system of claim 1 wherein said electronic circuitry of each of said senders introduces a common synchronization pulse pattern into each of said identification frames.

6.   (Original) The system of claim 1 wherein said electronic circuitry in each of said senders includes a transmitter for generating a carrier signal and a controller for amplitude controlling said carrier signal to define said uniquely encoded identification frame.

7.   (Original) The system of claim 6 wherein each transmitter in said plurality of senders generates a common carrier signal.

8.   (Original) The system of claim 7 wherein said common carrier signal is a radio frequency signal.

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9.　(Original) A system for detecting the presence or absence of one or more members from a defined set of members, said system comprising:

a plurality of senders each capable of asynchronously transmitting a uniquely encoded identification frame on a common communication channel to form a composite signal on said channel including identification frames from said plurality of senders, each sender configured to be uniquely physically associated with a different one of said members;

each of said senders including a power supply, a transmitter configured to be driven by said power supply to generate a common carrier signal, and a controller for controlling said carrier signal to repeatedly transmit a uniquely encoded identification frame uniquely identifying the sender;

each of said identification frames comprising a pulse identification pattern comprised of a sequence of quiet intervals, each of said quiet intervals being bounded by successive pulse intervals; and wherein the pulse identification pattern produced by each sender is characterized by a unique sequence of quiet interval durations; and

a monitor for receiving said composite signal comprising multiple pulse identification patterns transmitted by said plurality of senders and for recognizing each different transmitted pulse identification pattern therein.

10.　(Original) The system of claim 9 wherein each of said senders repeatedly transmits its unique pulse identification pattern.

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11.   (Currently amended) A method for determining whether or not each of a plurality of senders is present within a detection zone, comprising the steps of:

causing each of said senders to generate a unique identification frame comprised of active and inactive intervals wherein the identification frame of each sender includes at least one pulse during each active interval and a unique ID sequence comprising a unique identification pulse pattern defining a unique sequence of inactive interval durations;

causing each of said senders to repeatedly apply its identification frame to a common communication channel;

allowing said plurality of senders to asynchronously apply their respective identification frames to said common communication channel to form a composite signal;

causing each of said senders to introduce a common synchronization pulse pattern into each identification frame applied to said common communication channel; and

processing said composite signal to determine whether or not each sender has applied its unique identification frame to said common communication channel.

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12.   (Original) A system for monitoring the presence or absence of each of a plurality of senders within the detection zone of a monitor, said system comprising:

each of said senders including a controller for generating an identification frame including first and second pulse patterns wherein said first pulse pattern is common to said plurality of senders and said second pulse pattern is comprised of a unique sequence of inactive interval durations uniquely associated with the generating sender;

a common communication channel;

said sender controllers being operable to asynchronously and repeatedly apply their respective identification frames to said communication channel to collectively form a composite signal on said channel; and

a monitor coupled to said channel for processing said composite signal to separately identify each sender identification frame contained in said composite signal.

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